National Institute of Environmental Health Sciences

Season and weather patterns at time of birth in amyotrophic lateral sclerosis

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Abstract:

Studies in the northern hemisphere suggest that the numbers of amyotrophic lateral sclerosis (ALS) births vary depending on the season of the year. We wished to determine if a southern hemisphere study would show the same seasonal changes, and whether particular weather conditions were associated with the numbers of ALS births. Birth data from a case-control study of Australian residents were used to relate monthly birth rates of ALS to the seasons and weather conditions. The results were compared with previous studies in Japan, Sweden and Switzerland. Four hundred and ninety-one Australian sporadic ALS patients and 629 controls (partners, friends, and community volunteers) completed a self-reported questionnaire that included dates of birth. Australian ALS birth rates increased between late summer and early winter, and decreased between mid-winter and early summer. Similar patterns were seen in Japan and Sweden. Monthly average humidity correlated positively with the numbers of ALS births in Australia, Sweden, and Japan. In conclusion, seasonal differences in ALS birth rates in the southern hemisphere are similar to those in two out of three northern hemisphere countries. Early life factors related to weather conditions, such as increased humidity leading to more infectious diseases and allergens, need to be further investigated in ALS.

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Resource Description

Exposure : ☑

weather or climate related pathway by which climate change affects health

Meteorological Factors, Precipitation, Solar Radiation, Temperature

Geographic Feature: ☑

resource focuses on specific type of geography

None or Unspecified

Geographic Location: ☑

resource focuses on specific location

Non-United States

Non-United States: Australasia

Health Impact:

specification of health effect or disease related to climate change exposure

Neurological Effect

Resource Type:

format or standard characteristic of resource

Research Article

Timescale:

time period studied

Time Scale Unspecified